



Cap and Trade and the Western Climate Initiative
Washington Transportation Commission
March 18, 2009



Where we are and where we're headed

- Currently
 - No limits on greenhouse gas emissions
 - Full cost of fossil fuels not reflected in price of goods and services
 - Impacts from unlimited emissions felt throughout the economy
- Where we're headed
 - Low carbon economy
 - Reduced emissions
 - Avoid the worst climate change impacts

How we'll get there

- Policies that encourage more efficient use of energy
 - California tailpipe standards for passenger autos
 - Renewable Portfolio Standard
 - Renewable Fuel Standard
 - Updated building codes
 - Energy efficient appliance standards
- Transit oriented community projects
- Develop clean and renewable sources of energy
- Price greenhouse gas emissions

Pricing GHG Emissions

- Two main options
 - Tax
 - Cap and Trade
- Tax: price is certain, emission reductions are not
- Cap and Trade: reductions are certain; market sets the price

How Does Cap and Trade Work?

Cap-and-Trade Basics

- A government authority
 - Limits the total amount of emissions (cap)
 - Distributes allowances - permits to emit - for free or by auction
 - Establishes the compliance period: allowances = emissions
- Allowances can be bought and sold --- traded
- Number *declines* each year; emitters can
 - Reduce emissions
 - Purchase from others with an excess
 - Fund projects outside the cap that reduce emissions -- Offsets

Musical Chairs to Explain Cap and Trade



Each chair represents one permit or “allowance”

If you have a permit, you get a chair

Based on work by Holmes Hummel, PhD
Fellow for Congressman Jay Inslee
November 21, 2007



Musical chairs

At the start of the game, everyone has a seat – because there are no limits on carbon emissions.





The Cap

In the second year, the cap starts to decline

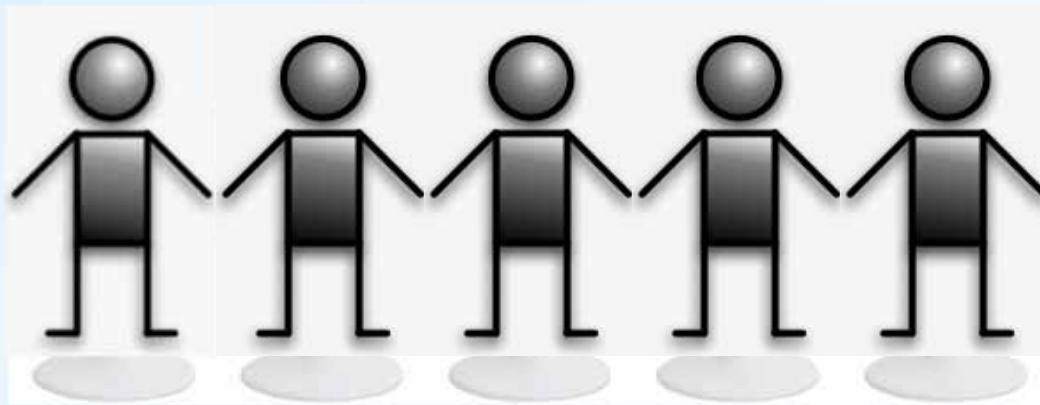
The number of permits available also declines

In our analogy, one player is left without a chair...



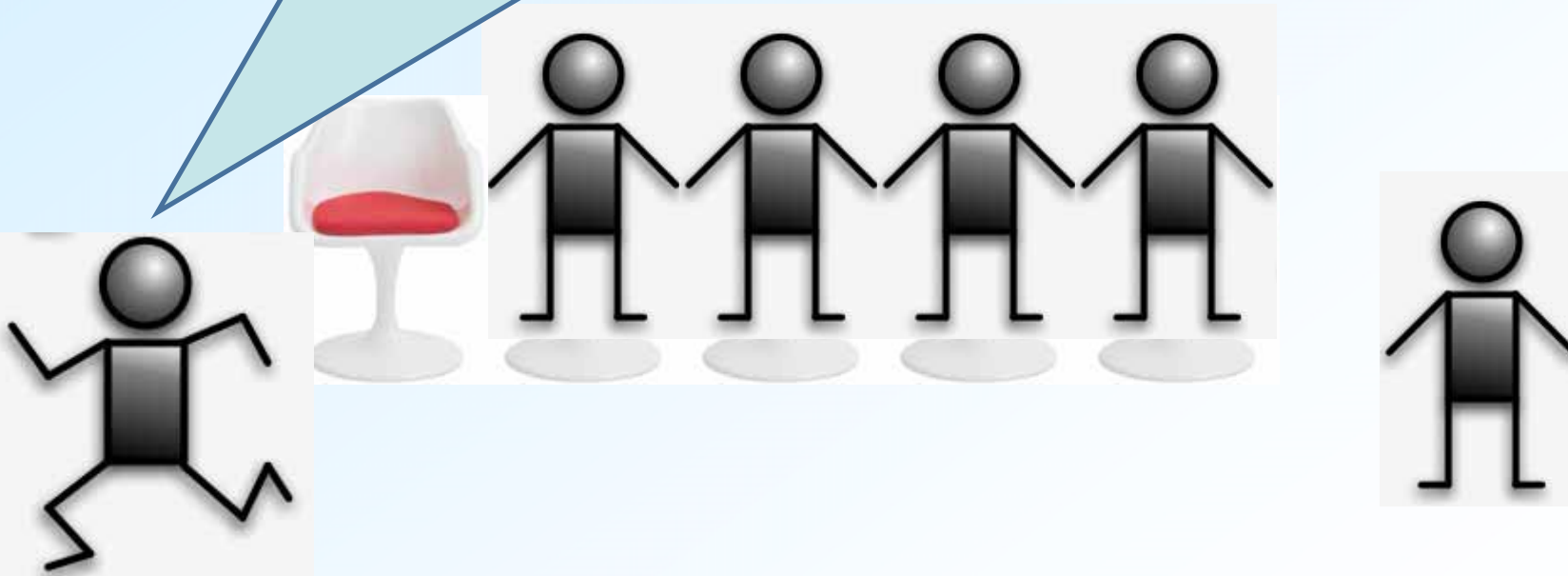
The Trade

Would anyone be willing to
sell their chair for \$10?



The Innovation

Sure! For that price, I can finance an efficiency upgrade, eliminating my need for a pollution permit.



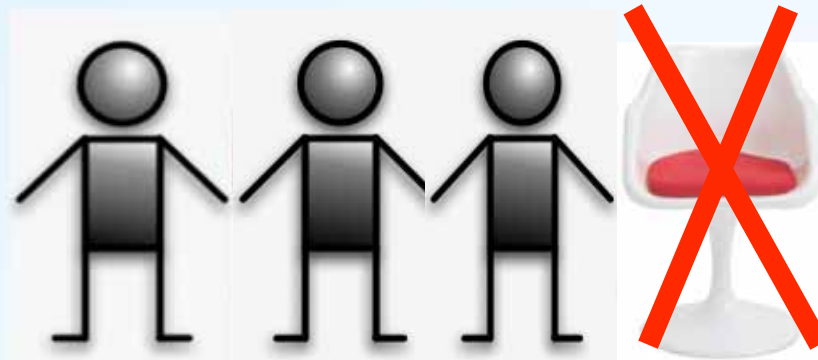


The Market

As cap tightens in each new round, fewer allowances are available

Prices begin to reflect real cost of greenhouse gas emissions on the economy

Low carbon reduction strategies become economical



SELL PRICE:

\$20

\$20

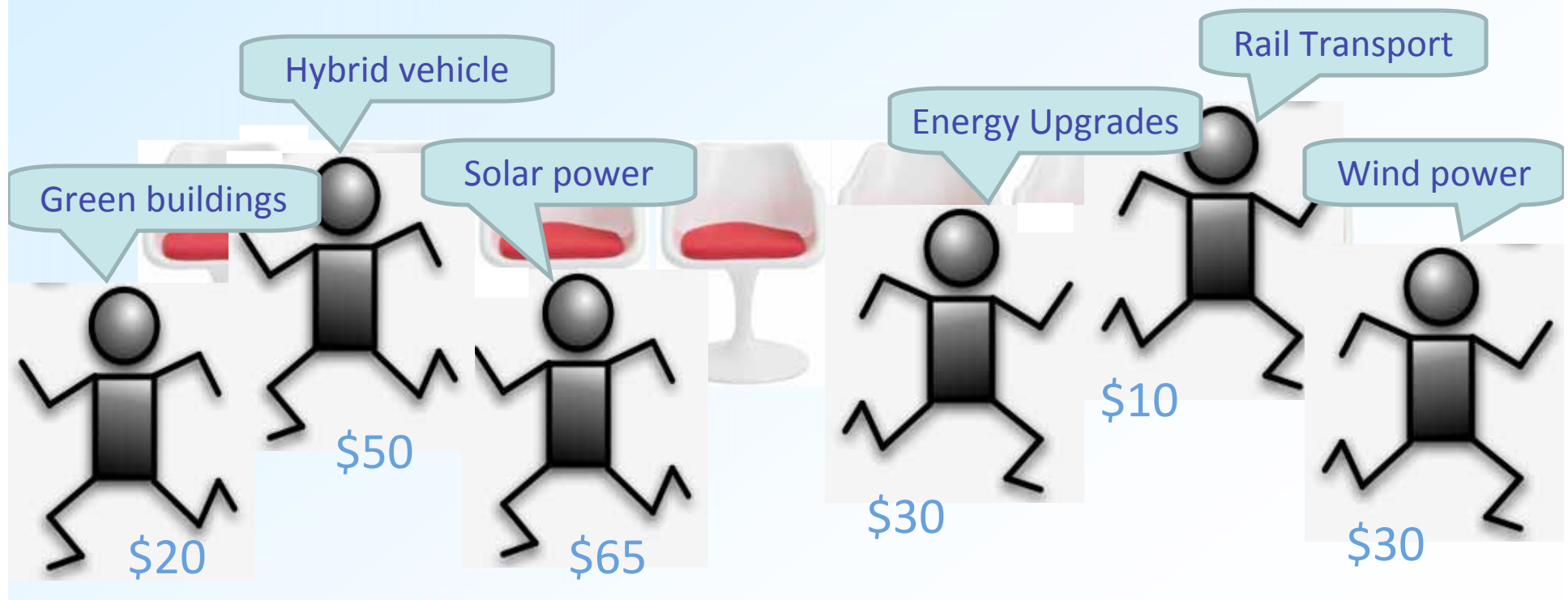
\$20



Achieving Reduction Targets

Cap-and-trade lets players choose at what price they will reduce their emissions

—and how they want to reduce them

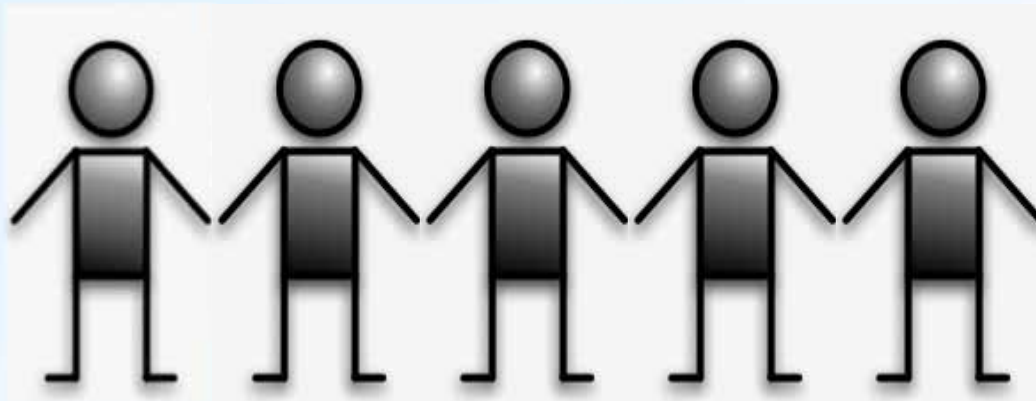




Using Market Incentives

For some, it is more profitable to reduce emissions and sell allowances

Profit is a main driver for innovation and investment; addressing climate change requires both





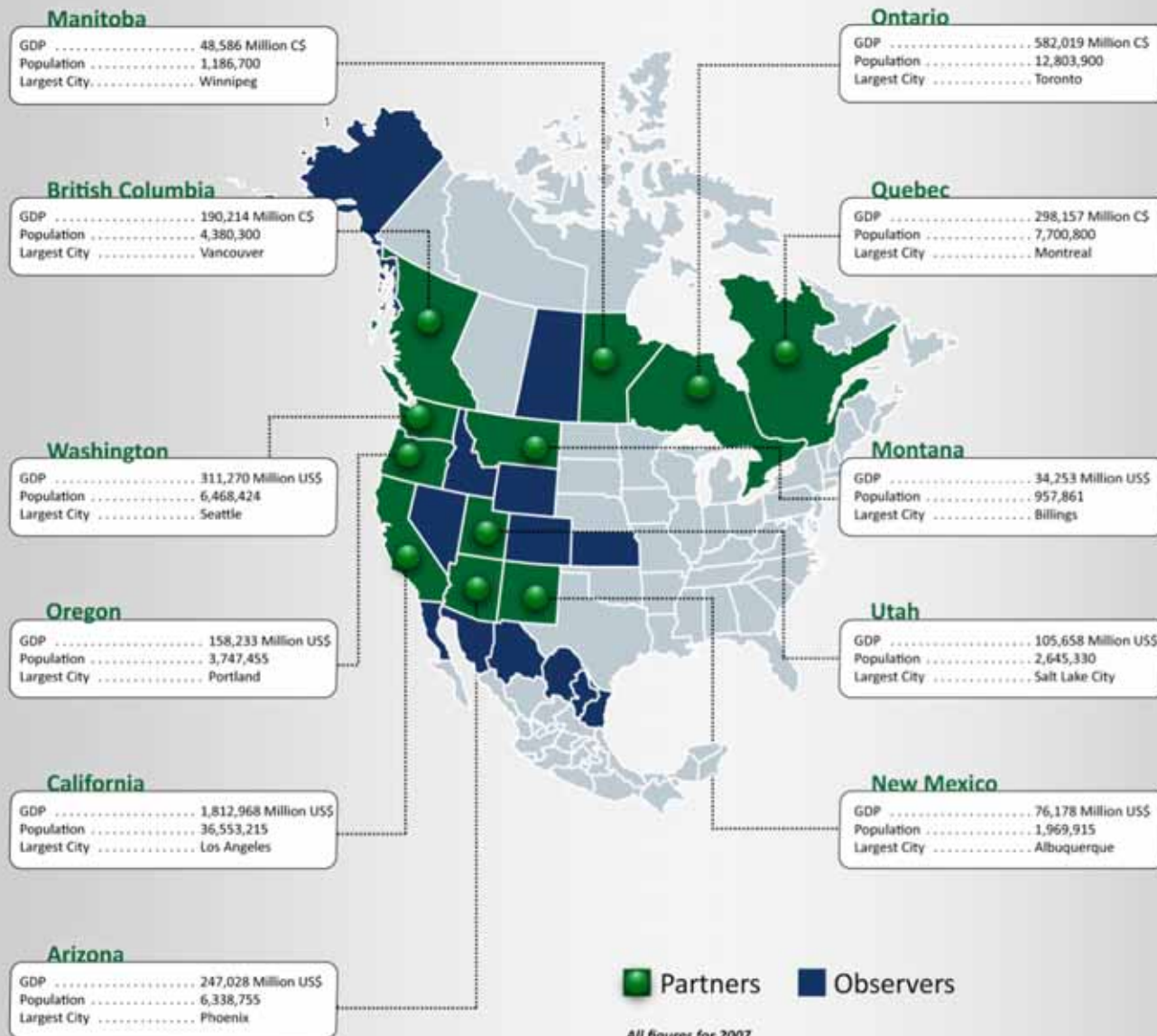
Achieving Reduction Targets

Number of permits available is reduced each year
until the ultimate target has been achieved

Purpose is to reduce greenhouse gas emissions



Western Climate Initiative



WCI OBSERVERS

CANADA
Saskatchewan

UNITED STATES
Alaska
Colorado
Idaho
Kansas
Nevada
Wyoming

MEXICO
Baja California
Chihuahua
Coahuila
Nuevo Leon
Sonora
Tamaulipas

All figures for 2007
 Source for US data: US Census Bureau and US Bureau of Economic Analysis
 Source for Canadian data: Statistics Canada

Regional Strategies

Joint work to:

- Promote clean and renewable energy in the region
- Increase energy efficiency
- Advocate for regional and national climate policies that are in the interest of western states
- Identify measures to adapt to climate change impact

Three specific directives:

- Set a regional emissions reduction goal
- Join a multi-state registry to track, manage and credit reductions
- Design a regional multi-sector market-based mechanism

WCI Cap-and-Trade Design

- Most expansive program designed to date
 - Regional Greenhouse Gas Initiative (RGGI) = carbon dioxide from electricity only
 - EU ETS = carbon dioxide from electricity, industrial combustion and process emissions
- Will cover nearly 90% of the region's emissions by 2015
 - RGGI = ~33% of emissions
 - EU ETS = ~40% of emissions



Design Recommendations

- Individual State/Province programs
 - Harmonized around essential elements
 - Linked to create a regional trading market
- Firm emissions limit
 - Individual State/Province 2020 emissions goals
- Methodology for setting regional and partner caps
- Third-party verified emission reporting

Design Recommendations

- Flexibility in compliance
 - Cap and trade
 - Offsets
 - Allowance banking (but no borrowing)
 - Three year compliance periods
 - Early reduction allowances
- Allowance distribution
 - Individual partner discretion
 - Auctions
 - Harmonization for key industries

Economic Modeling Results

- Possible to meet regional goal with overall modest savings
 - 15% below 2005 by 2020
- Complementary policies get us about ½ way to target
 - CA tailpipe standards
 - 1% reduction in demand for electricity and gas
 - 2% reduction in VMT
- Offsets and banking reduce allowance prices
- Covering more sources also reduces prices

Next Steps

- 2009 – 2010 design details including
 - Market oversight
 - Competitiveness issues
 - Allowance allocation
 - Offset protocols
 - Compliance and verification
 - Tracking allowances and offsets
 - 2010 state ghg emission reporting starts



www.ecy.wa.gov/climatechange/index.html